

Attorney Docket No. P65678USO
Serial No. 09/582,328

Amendments to the claims:

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of claims:

Claims 1-40 (canceled).

41 (currently amended): A purified, synthesized, or genetically engineered serine protease inhibitor, characterized by having a domain with four cysteines, and a sequence of 13 amino acids is present between the first and second cysteines, a sequence of 18 amino acids is present between the second and third cysteines, and a sequence of 2 amino acids is present between the third and fourth cysteines.

42 (previously presented): The serine protease inhibitor according to claim 41, characterized in that the sequence of the domain between the first and second cysteines is selected from

HEFQAFMKNGKLF (SEQ ID NO: 7), SEYRKS SRKNGRLF (SEQ ID NO: 8),
DDFKKGERDGDFI (SEQ ID NO: 9), SEFRDQVRNGTLI (SEQ ID NO: 10),
SAFRPFVRNGRLG (SEQ ID NO: 11), SEYRHYVRNGRLP (SEQ ID NO: 12),
KEYEKQVRNGRLF (SEQ ID NO: 13), DEFRLLQNGKLF (SEQ ID NO: 14),

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SQYQNQAKNGILF (SEQ ID NO: 15), AEYREQMKNGRLS (SEQ ID NO: 16), or
NEYRKLVRNGKLA (SEQ ID NO: 17), DEFRSQMKNKGLI (SEQ ID NO: 18).

43 (previously presented): The serine protease inhibitor according to claim 41, characterized in that the sequence between the second and third cysteines is selected from
PQDKKFFQSLDGIMFINK (SEQ ID NO: 19), TRENDPIQGPDGKMHGNT (SEQ ID NO: 20,
TRENDPVLGPDGKTHGNK (SEQ ID NO: 21), TREHNPVRGPDGKMHGNK (SEQ ID NO: 22),
TRESDPVRGPDGRMHGNK (SEQ ID NO: 23), TRENDPIEGLDGKIHGNT (SEQ ID NO: 24),
TRENDPIRGPDGKMHGNL (SEQ ID NO: 25), TRENDPVRGPDGKTHGNK (SEQ ID NO: 26),
TRENDPIQGPDGKVHGNT (SEQ ID NO: 27), TRESDPVRDADGKSYNNQ (SEQ ID NO: 28),
or TRESDPVRGPDGKTHGNK (SEQ ID NO: 29).

44 (previously presented): The serine protease inhibitor according to claim 41, characterized in that the sequence between the third and fourth cysteines of the domain is selected from AT, AL, AM, SM, or TM.

45 (previously presented): The serine protease inhibitor according to claim 41, having one of the following formulas:

- R_1 -C-HEFQAFMKNKGLF-C-PQDKKFFQSLDGIMFINK-C-AT-C- R_2 (SEQ ID NO: 30)
- R_1 -C-DDFKKGERDGDFI-C-PDYVEAVCGTDGKTYDNR-C-AL-C- R_2 (SEQ ID NO: 31)
- R_1 -C-SAFRPFVRNGRLG-C-TRENDPVLGPDGKTHGNK-C-AM-C- R_2 (SEQ ID NO: 32)

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- R₁-C-KEYEKQVRNGRLF-C-TRESDPVRGPDGRMHGNT-C-AL-C-R₂ (SEQ ID NO: 33)
- R₁-C-SQYQNQAKNGILF-C-TRENDPIRGPDKMHGNT-C-SM-C-R₂ (SEQ ID NO: 34)
- R₁-C-NEYRKLVRNGKLA-C-TRENDPIQGPDKVHGNT-C-SM-C-R₂ (SEQ ID NO: 35)
- R₁-C-SEYRKSRLNGRLF-C-TRENDPIQGPDKMHGNT-C-SM-C-R₂ (SEQ ID NO: 36)
- R₁-C-SEFRDQVRNGTLI-C-TREHNPVRGPDGKMHGNT-C-AM-C-R₂ (SEQ ID NO: 37)
- R₁-C-SEYRHYVRNGRLP-C-TRENDPIEGLDGKIHGNT-C-SM-C-R₂ (SEQ ID NO: 38)
- R₁-C-DEFRRLLQNGKLF-C-TRENDPVRGPDGKTHGNT-C-AM-C-R₂ (SEQ ID NO: 39)
- R₁-C-AEYREQMKNGRSL-C-TRESDPVRDADGKSYNNQ-C-TM-C-R₂ (SEQ ID NO: 40)
- R₁-C-DEFRSQMKNGLI-C-TRESDPVRGPDGKTHGNT-C-TM-C-R₂ (SEQ ID NO: 41),

wherein R₁ is NH₂, an amino acid, or a peptide with up to 1000 amino acids, and R₂ is COOH, CONH₂, an amino acid, or a peptide with up to 1000 amino acids.

46 (previously presented): The serine protease inhibitor according to claim 41, characterized by containing

- a disulfide bridge between the first and fourth cysteines and/or between the second and third cysteines; or
- a disulfide bridge between the first and a fifth cysteine and/or between the second and fourth cysteines and/or between the third and a sixth cysteine.

47 (previously presented): The serine protease inhibitor according to claim 41, characterized by being a fragment of VAKTI-1 (SEQ. ID. NO. 1) or VAKTI-2 (SEQ. ID. NO. 2).

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Claim 48 (currently amended): ~~The~~ A purified, synthesized, or genetically engineered serine protease inhibitor according to ~~claim 47~~, characterized by being HF 6479 (SEQ. ID. NO. 3) or HF 7665 (SEQ. ID. NO. 4).

Claim 49 (currently amended): A nucleic acid coding for ~~a~~ the serine protease inhibitor according to claim ~~48~~ 41.

Claim 50 (currently amended): A medicament containing

- the serine protease inhibitor according to claim ~~48~~ 41,
- a nucleic acid coding for the serine protease inhibitor, or
- the serine protease inhibitor and the nucleic acid coding for the serine protease inhibitor, together with a pharmaceutical vehicles vehicle.

Claim 51 (previously presented): The medicament according to claim 50, containing from 0.01 to 1000 mg per kg of body weight of the serine protease inhibitor.

Claim 52 (previously presented): Method of using the medicament according to claim 50, wherein the medicament is the serine protease inhibitor, for the treatment of acute or chronic

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cervix inflammations, inflammations of Bartholin's glands and other vaginal regions, tonsillitis, pharyngitis and laryngitis, acute or chronic inflammatory processes accompanied by excessive formation of mucus and the resulting acute emergency situations, postoperative bleeding due to hyperfibrinolysis, and for the prophylaxis of lung emphysema formation in deficiencies of α_1 -proteinase inhibitor.

Claim 53 (previously presented): Method of using the medicament according to claim 50, wherein the medicament is the nucleic acid coding for the serine protease inhibitor, in gene therapy for the treatment and prophylaxis of acute or chronic cervix inflammations, inflammations of Bartholin's glands and other vaginal regions, tonsillitis, pharyngitis and laryngitis, acute or chronic inflammatory processes accompanied by excessive formation of mucus and the resulting acute emergency situations, postoperative bleeding due to hyperfibrinolysis, and lung emphysema formation in deficiencies of α_1 -proteinase inhibitor.

Claim 54 (currently amended): Antibodies or antibody fragments against epitopes of the serine protease inhibitor according to claim 48 ~~41~~.

Claim 55 (currently amended): Poly- or oligonucleotides which will hybridize to regions of the cDNA or corresponding RNA under stringent conditions and optionally prevent the

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expression of coding regions of the genes coding for the serine protease inhibitor according to claim ~~48~~ 41.

Claim 56 (previously presented): A diagnostic agent containing at least one of the antibodies or antibody fragments according to claim 54.

Claim 57 (previously presented): A medicament containing the antibodies or antibody fragments according to claim 54 in therapeutically effective amounts.

Claim 58 (previously presented): Method of using the medicament according to claim 57 for the treatment of diseases involving too high an expression of a serine protease inhibitor, characterized by the antibodies or antibody fragments having a domain with four cysteines, and a sequence of 13 amino acids is present between the first and second cysteines, a sequence of 18 amino acids is present between the second and third cysteines, and a sequence of 2 amino acids is present between the third and fourth cysteines.

Claim 59 (canceled).

Claim 60 (canceled).